WHAT IS CLAIMED IS:

1. An apparatus to orientate a body with respect to a surface spaced-apart from said body, said apparatus comprising:

a flexure system;

a body; and

an actuation system coupled to said flexure system with said body being coupled to said flexure system to move in response to movement caused by said actuation system.

2. The apparatus as recited in claim 1 wherein said actuation system positions said body to extend parallel to a sub-portion of said surface in superimposition therewith.

3. The apparatus as recited in claim 1 wherein said flexure system includes a first flexure member defining a first axis and a second flexure member defining a second axis with said body being coupled to rotate about said first and second axes in response to movement caused by said actuation system to position said body in a desired orientation with respect to said surface and to maintain said orientation in response to a force being exerted upon said body.

4. The apparatus as recited in claim 1 further including a flexure ring, a base plate and a force sensor connected between said flexure ring and said base plate with said flexure system further including a first flexure member defining a first axis and a second flexure member defining a second axis with said first and second flexure members being connected to said flexure ring.

5. The apparatus as recited in claim 1 wherein said flexure system further includes a first flexure member defining a first axis and a second flexure member defining a second axis with said first and second flexure members being coupled together to provide said flexure system with eight joints with said joints being spaced-apart from a pivot point defined by the intersection of said first axis and said second axis.

6. The apparatus as recited in claim 1 wherein said flexure system includes a first flexure member defining a first axis and a second flexure member defining a second axis, said body being coupled to said first and second flexure members to facilitate movement of said body with respect to said first and second axes so that movement of said body with respect to said first axis is decoupled from movement of said body with respect to said second axis.

7. The apparatus as recited in claim 6 wherein said first axis extends orthogonally to said second axis.

8. The apparatus as recited in claim 1 wherein said flexure system includes a first flexure member defining a first axis and a second flexure member defining a second axis with said body being coupled to rotate about said first and second axes in response to movement caused by said actuation system to position said body in a desired orientation with respect to said surface.

9. The apparatus as recited in claim 8 wherein said desired orientation includes a separation of said body from said surface, defining a gap therebetween and further including having a gap sensing device to produce information corresponding to said gap with said actuation system coupled to receive said information and to position said body in response to said information.

10. The apparatus as recited in claim 1 further including a housing with said flexure system further including a first flexure member defining a first axis and a second flexure member defining a second axis with said actuation system being coupled between said first and second flexure members and said housing.

11. The apparatus as recited in claim 10 wherein said first and second flexure members each includes a mount, a pair of spaced-apart braces, a first flexure arm pivotally connected between said mount and one of said pair of spaced-apart braces, and a second flexure arm pivotally connected between said mount and one of said pair of spaced-apart braces disposed opposite to said first flexure arm.

12. An apparatus to orientate a body with respect to a surface spaced-apart from said body, said apparatus comprising:

a flexure system having a range of motion associated therewith;

a body; and

a pre-calibration stage to position said body to be spaced-apart from said surface a distance with said distance being less than said range of motion.

13. The apparatus as recited in claim 12 wherein said pre-calibration stage further includes an actuation system to position said body to have a predetermined spatial relationship with said surface.

14. The apparatus as recited in claim 13 wherein said predetermined spatial relationship includes positioning said body to be substantially parallel to a sub-portion of said surface in superimposition therewith.

15. The apparatus as recited in claim 12 wherein said flexure system includes a first flexure member defining a first axis and a second flexure member defining a second axis with said pre-calibration stage further including an actuation system, a flexure ring, and a base plate with said first and second flexure members being connected to said flexure ring and said flexure system being connected to said base plate, said body being connected to said flexure system to rotate about said first and second axes in response to movement caused by said actuation system with said first axis extending orthogonally to said second axis.

16. The apparatus as recited in claim 15 further including a force sensor connected between said base plate and said flexure ring.

17. The apparatus as recited in claim 13 wherein said flexure system includes a first flexure member defining a first axis and a second flexure member defining a second axis with said body being coupled to said flexure system to rotate with respect to said first and second axes in response to movement caused by said actuation system to position said body in a desired orientation with respect to said surface and to maintain said orientation in response to a force being exerted upon said body.

18. The apparatus as recited in claim 13 wherein said predetermined spatial relationship includes a separation between said body and said surface, defining a gap therebetween, and further including having a gap sensing device to produce information corresponding to said gap with said actuation system coupled to receive said information and to position said body in response to said information to maintain said predetermined spatial relationship.

19. The apparatus as recited in claim 12 wherein said first and second flexure members each includes a mount, a pair of spaced-apart braces, a first flexure arm pivotally connected between said mount and one of said pair of spaced-apart braces, and a second flexure arm pivotally connected between said mount and one of said pair of spaced-apart braces disposed opposite to said first flexure arm with said pair of spaced-apart braces being attached to said flexure ring.

20. The apparatus as recited in claim 12 wherein said first and second flexure members are coupled together to provide said flexure system with eight joints with said joints being spaced-apart from a pivot point defined by the intersection of said first axis and said second axis.

21. An orientation stage for achieving fine movement and alignment of a template in an imprint lithography process, said orientation stage comprising:

a first flexure member with first and second arms extending therefrom, each said arm including a first set of flexure joints which provide pivotal motion of said first flexure member about a first orientation axis;

a second flexure member having third and fourth arms extending therefrom, each said arm including a second set of flexure joints which provide pivotal motion of said second flexure member about a second orientation axis; and

a support coupled to said second flexure member and adapted for holding a template in place during imprinting, wherein said first and second flexure members are further adapted to be joined so that said template in said support moves about a pivot point intersected by said first and second orientation axis.

22. The orientation stage as recited in claim 21 wherein said first set of flexure joints are parallel to each other, and said second set of flexure joints are parallel to each other.

23. The orientation stage as recited in claim 21 wherein said first and second set of flexure joints are constructed of a flexible material.

24. The orientation stage as recited in claim 21 wherein each of said first, second, third and fourth arms comprise a first notch attached to a corresponding said flexure member; a second notch for attachment to a fixed object; and a rigid body section extending between said first and second notches.

25. The orientation stage as recited in claim 21 further comprising actuators in operable contact with said flexure member to cause said support to pivot about said pivot point.

26. The orientation stage as recited in claim 25 wherein said actuators are piezo actuators.

27. The orientation stage as recited in claim 26 wherein said piezo actuators are capable of being shortened and lengthened, causing said flexure joints to rotate in both directions.